USER MANUAL

Courseware Solutions Inc.

www.mathville.com

Mathville Middle School User Manual
Mathville MS v. 3.0
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Courseware Solutions Inc.

Phone & fax: 1-888-MATHVILLE
www.mathville.com

Getting Started

Insert the CD-ROM into the CD-ROM drive.

The program runs best if the display is set to 1024 by 768 and as many colors as possible.

Windows

a) Select Run from the Start menu.

b) Type: **d:\MathvilleMS.exe**

and press ENTER or click OK. If your CD-ROM drive is not "d:" type its letter instead of "d";

or, alternatively, click **Browse** and locate **MathvilleMS.exe** on the CD-ROM drive.

Macintosh

a) Double-click the Mathville MS CD icon to open it, if necessary.

b) Double-click the **Mathville MS** icon to start.

Electronic user manual

Double-click the **Mathville MS Manual.pdf** icon to view and/or print this manual. Adobe Acrobat Reader, a free download from www.adobe.com, is required to view the manual.

FREE SUPPORT and upgrade discounts

Double-click **Register** (or run **Register.exe**), located on the CD-ROM, to view instructions for registering your copy of *Mathville MS* to receive unlimited free technical support and discounts to upgrade to the network or deluxe versions of the software.

Table of Contents

Getting Started (reverse of this page)

Overview 1

- Description 1
- Curriculum 1
- Suggested grade range 1
- Recommendations for use 2
- Why can't I save? 2
- Accountability 2

Technical Information 3

- Copying to a hard drive 3
- Network/Intranet version 3

Curriculum Connections 4

Mathville Main Street 6

Clothing Store 8

Grocery Store 9

Hardware Store 10

Games 11

- F(x) machine 12
- Ice Cream Catch 13
- Puzzles 14

Sports 15

- Baseball 16
- Basketball 17
- Golf 18
- Hockey 19
- Soccer 20

Work 21

- The Jobs 22

Troubleshooting 30

Student Assignment & Tracking Sheet 31

Mathville MS Skills List 33

Overview

The Mathville Series is built around the belief that EVERYONE can enjoy developing and demonstrating their mathematical competence within a supportive, non-competitive, fun-filled environment. *Mathville Middle School* provides such an environment – a place where kids love math and where math achievements abound.

Description

Mathville is a virtual village, an environment that highlights the math that is part of everyday life. In Mathville a "citizen" works, shops, and plays, exercising math skills that are an integral part of these activities. Mathematics is a part of life in Mathville, just as it is in the real world.

While the problems in *Mathville Middle School* span a variety of topics and difficulty levels, they are not grouped by type, or presented in a sequential or hierarchical fashion. Such a subject-specific approach leads to a predictability that is inconsistent with *Mathville's* real-world, problem-solving orientation. The math that we see in the world around us is not grouped into Algebra or Arithmetic, or arranged in order of difficulty, and neither are the problems in *Mathville*.

Curriculum

Mathville Middle School (MS) is designed to integrate a broad range of thinking and mathematics skills with everyday life in a virtual village. The activities, which incorporate a wide variety of curriculum topics, are imaginative and engaging for the student. While reinforcing the math skills learned in school, the program is designed to empower learners to develop creative problem-solving skills and a real sense of math confidence.

Mathville MS adheres to the mathematics curriculum prescribed by both NCTM (National Council of Teachers of Mathematics) and most educational jurisdictions in North America. Its extensive curriculum coverage is part of the reason that *Mathville MS* is recommended by many boards, districts, and states; has won a National Parenting Center Seal of Approval; and was named "The Best" in the Math category in a Superkids Educational Software Review.

Topics associated with specific activities are listed in Curriculum Connections and the individual activity descriptions in this manual.

Suggested grade range

Mathville MS is designed for use in grades 6 and up. However, the flexibility in the program and the everyday math focus allow learners outside that grade range to benefit from the program. With support from a parent, teacher, or older child, *Mathville MS* could be enjoyed by children as young as 8 or 9. Adults too, find the program educational and entertaining.

Recommendations for use

Mathville MS is designed to supplement and reinforce classroom instruction, although it does display brief reminders and key points to students, guiding them to a correct answer. Because it is highly motivating, it is extremely useful as a tool for remediation.

Mathville's open format allows for both student-directed and teacher-directed learning. Most students readily begin exploring *Mathville MS* on their own and require little supervision. As part of a more structured learning plan, however, teachers can use the Assignment Sheet (page 31) to direct students to selected activities that address their individual learning needs.

Mathville MS is most effectively used as:

- a highly motivating way to reinforce math skills introduced in class
- remediation for adults or students at any grade level
- a way of connecting isolated math skills with real-world problem-solving

Why can't I save?

In spite of the fact that *Mathville* is not a linear program with an ultimate goal, many students are highly motivated by the idea of accumulating money. Others find that their skill levels are such that they spend most of their session in Work. Both situations lead to a desire to "save" money or jobs done. This kind of saving is not done because of *Mathville's* focus on current, rather than past, skill levels, and on the fact that many students need to use their skills frequently to remain proficient. Having answered a question correctly several weeks ago may not accurately reflect a student's current skill level.

The desire to see more of Mathville is an incentive for students to improve the speed and ease with which they do the jobs. Because they always need to start by earning money at Work, veteran *Mathville* users become more and more competent at the jobs, allowing them to spend more time enjoying the shops, games and sports.

Accountability

Teacher observation provides the most accurate measure of the student's math capabilities and accomplishments in the program. To supplement observation, a detailed Session Record showing the number of times that each math activity was completed is available to view and to print. Students can access this record at any time during the session. Also available for assessment purposes are dynamically generated worksheets and tests, components of the *Teacher's Ekit*, available with all *Mathville MS* School Editions.

A Student Assignment & Tracking Sheet is also provided at the end of this manual to facilitate the recording of teacher-directed learning instructions. This sheet can also be used by the student to record the session information when printing is not available. Also included on the Tracking Sheet is space for the student to write down their calculations, their difficulties and any math points of interest.

The completed sheets can be submitted to the teacher or saved by students as a record of progress.

Technical Information

Mathville MS is a dual-platform multimedia CD-ROM program that runs on a Windows PC or a Macintosh with the following minimum requirements:

Windows PC

- Windows 95 or higher
- 1024 x 768 display (recommended)
- CD-ROM drive

Macintosh

- System 8.0 or later
- 1024 x 768 display (recommended)
- CD-ROM drive

The program runs best if the display is set to 1024 by 768 and as many colors as possible.

Copying to a hard drive

Mathville was developed to run directly from the CD-ROM. However, if you wish to copy it to a hard drive and run it without the CD, the following files and folders should be copied

Windows

- MathvilleMS.exe
- DATA folder/directory

Macintosh

- Mathville MS
- DATA folder

Network/Intranet Version

A network version of *Mathville MS* is available for those wishing to run the program on more than one computer through either a local area network or an intranet. Purchasers of the school edition or single-user version of the program should contact Courseware Solutions about upgrading to this “internet-ready” network version.

Curriculum Connections

Number Sense

Decimals . . . . . .Clothing Store, Grocery Store, Hardware Store,
. . . . . .Sports - Baseball, Work - Financial Records, Savings and Loans
Estimating . . . . . .Clothing Store, Hardware Store, Work - Profits
Exponents . . . . . .Sports -Basketball
Fractions . . . . . .Clothing Store, Sports - Baseball,
. . . . . .Work - Chef, Savings and Loans, Snack Services
Integers . . . . . .Games - F(x) Machine, Ice Cream Catch, Work - Climatology
Least common multiple . . . . .Work - Scheduling
Mental math . . . . . .Clothing Store, Grocery Store, Hardware Store,
. . . . . .Sports - Soccer, Work - Photography
Multi-step word problems . . .Clothing Store, Grocery Store, Hardware Store,
. . . . . .Work - Financial Records, Future Sales, Internet Webmaster,
. . . . . .Work - Photography, Scheduling
Order of Operations . . . . . .Games - Ice Cream Catch
Number line . . . . . .Sports - Baseball
Percent . . . . . .Clothing Store, Grocery Store, Sports - Baseball,
. . . . . .Work - Savings and Loans, Snack Services
Rate & Ratio . . . . . .Sports - Baseball, Work - Internet Webmaster, Photography
Rounding . . . . . .Clothing Store, Hardware Store, Work - Profits

Geometry & Spatial Sense

Analyze two- and
three-dimensional figures . . . .Sports - Soccer, Work - Packaging, Warehouse
Coordinates . . . . . .Sports - Golf
Flips . . . . . .Games - Flip puzzle
Measure and estimate
angles . . . . . .Sports - Hockey
Nets of solids . . . . . .Work - Warehouse
Pythagorean relationship . . . .Sports - Golf
Slides . . . . . .Games - Slide puzzle
Symmetry . . . . . .Sports - Soccer
Turns . . . . . .Games - Turn puzzle

Measurement

Area . . . . . .Hardware Store, Work - Photography
Convert within the metric or
customary system . . . . . .Hardware Store
Length . . . . . .Hardware Store
Perimeter . . . . . .Work - Packaging, Photography
Surface area . . . . . .Work - Packaging
Volume . . . . . .Work - Packaging

Data & Probability

Averages (means) . . . . . .Work - Market Research
Bar graphs . . . . . .Work - Market Research
Combinations . . . . . .Sports - Soccer
Data interpretation . . . . . .Work - Data Analyst
Designing survey questions . .Work - Data Analyst
Line graphs . . . . . .Work - Future Sales
Probability . . . . . .Sports - Soccer
Reading tables . . . . . .Work - Internet Webmaster, Profits

Patterning & Algebra

Algebraic expressions . . . . . .Work - Payroll
Identify & extend
number patterns . . . . . .Games - F(x) machine
Substitution in a formula . . . .Work - Payroll

Problem Solving

Throughout the program

Mathville Main Street

Welcome to the virtual village of Mathville, where everything that happens involves math! Discovering how life in Mathville works is part of the fun and will challenge your problem-solving skills.

Before arriving on Main Street, you will choose an identity for your time in Mathville.

Click on the doors to go in and out of the buildings on Main Street, where you will work, shop and play. In general, clicking things will yield interesting results.

You begin life in Mathville with no money and 10 points each for Food, Clothing and Housing. These measures reflect your current status in Mathville and are displayed at the bottom of the screen.

- Money is earned at WORK when jobs are completed successfully.
- Food, Clothing and Housing points ALL decrease by one each time you exit a building.
- Food, Clothing and Housing points increase, but your money decreases, when you buy food, clothing or hardware (solve problems) at the stores.

If Food, Clothing or Housing drop to 0, you will be temporarily evicted from Mathville, so you'll have to buy food, clothing and hardware regularly. Since you'll need money to buy things and play the games and sports, you'll also have to go to Work regularly.

Strictly speaking you don't need to visit Sports or Games, but you'll probably find that life in Mathville is a lot more fun if you do. You will need $5 to participate in the Sports and Games activities, but if you complete the activity successfully, your $5 is refunded.

If you are evicted, don't worry. You will immediately be given a fresh start, with 10 points each for Food, Clothing and Housing.

More detailed descriptions of the stores, Games, Sports and Work begin on the next page.

The Menu Bar

The following menu items are available across the top of the screen:

- **Quit** – to exit from the **Mathville MS** program
- **Credits** – to see a list of the creators of **Mathville MS**
- **Skills List** – to view the math skills addressed in each Mathville activity
- **Help** – to see context-sensitive help
- **View session record** – to view a list of activities completed successfully in the session

  The number in parentheses beside each activity represents the number of times the activity was done.

- **Print session record** – to print a list of activities completed successfully in the session

  The Money, Food, Clothing and Housing measures are included in the printed record. To save on ink, however, the printed record does not include the background picture.

Help
View session record
Activities done during this session (and number of times done)
Generated Thu Feb 12 10:56 2004
Clothing Store (1)
Games - Ice Cream Catch (1)
Sports - Baseball (1)
Sports - Basketball (1)
Work - Chef Trainee (1)
Work - Climatology Trainee (1)
Work - Climatology Expert (3)
Work - Payroll Trainee (1)
Work - Payroll Expert (1)
Work - Savings and Loans Trainee (1)
Work - Savings and Loans Expert (1)
Work - Warehouse Trainee (2)
Work - Warehouse Expert (2)

Clothing Store

Skills

- converting between fractions, decimals, and percent
- decimal operations
- estimating
- rounding
- two-step word problems (discount)

Students buy clothing in the Clothing Store to keep up their Clothing points. Clothing is paid for with money that has been earned at Work. That is, when an item is purchased, Money decreases and Clothing points increase by the same amount. Different items, prices, discounts and math challenges appear each time the store is entered.

To buy clothing, drag an item to the counter and click the cash register. Then answer the question to complete the purchase.

Grocery Store

Skills

- decimal operation
- mental math
- percent calculations
- word problems (reading labels, calculating unit cost)

In the Grocery Store, students can purchase either oranges or cereal. They must have enough money, earned by completing Work tasks, to make their purchase. Each complete purchase earns Food points.

To make a purchase, drag an item to the counter and click the cash register. Then answer the question to complete your purchase.

Hardware Store

Skills

- area of rectangles
- length
- decimal operations
- estimating
- rounding

Students buy either floor covering remnants or pipes in the Hardware Store to keep up their Housing points. After putting an item on the counter and clicking the cash register, students must either calculate the area of a remnant or measure the length of a pipe and estimate the cost. Part of the problem is discovering how to measure the pipe (by using the stick hanging on the wall).

To switch from standard measure to metric (or vice versa), click the button in the lower right corner.

Games

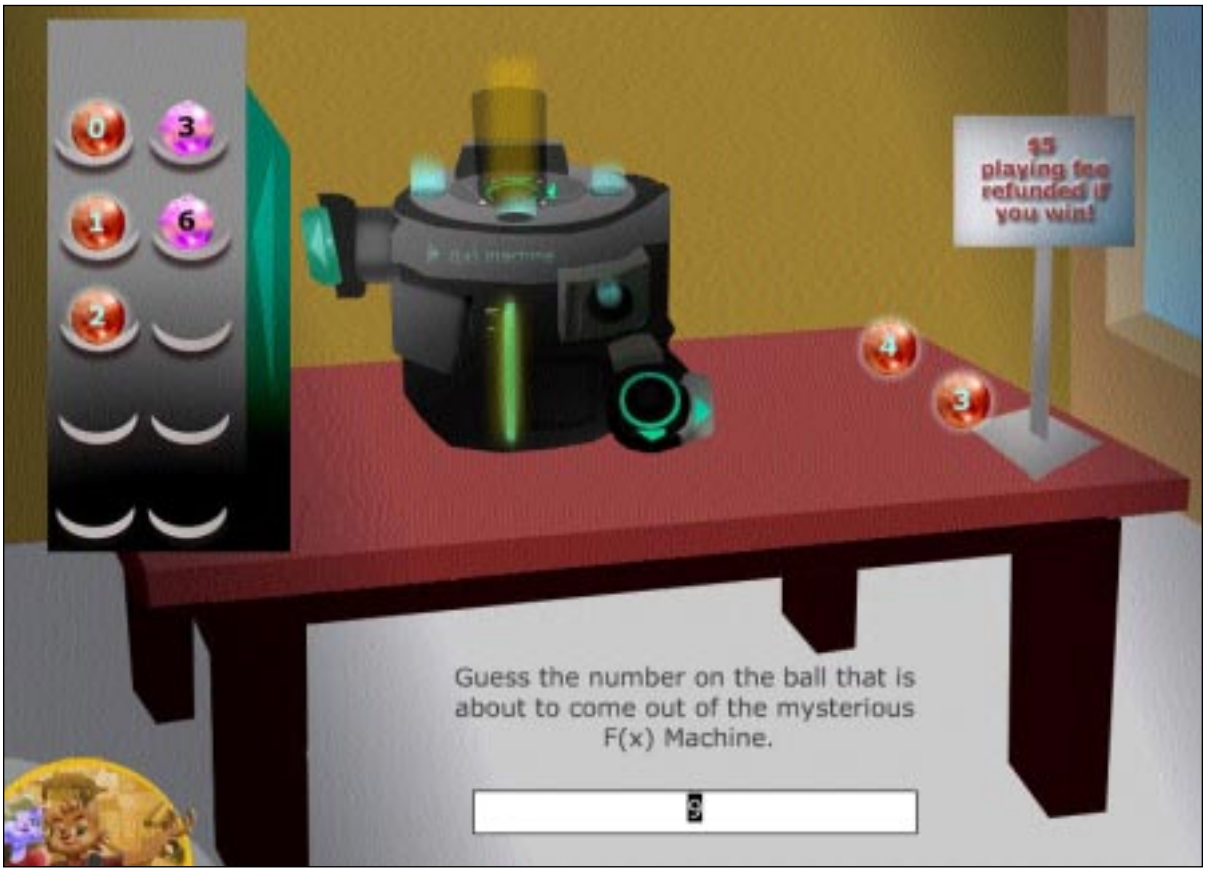
TURN Puzzle
The picture on the cover will help you solve the puzzle.
SLIDE Puzzle
$5 playing fee refunded if you win!
FLIP Puzzle
Mathville
Ice Cream Catch Game

In Games, students have a choice of five fun math-themed activities: three puzzles, a mysterious F(x) machine and a game called Ice Cream Catch. Students select any of these five activities by clicking on them.

As in Sports, students require $5 to play a game. When they win a game, complete a puzzle or solve the F(x) machine, their $5 is refunded.

Descriptions of the games follow.

Games - F(x) Machine



Skills

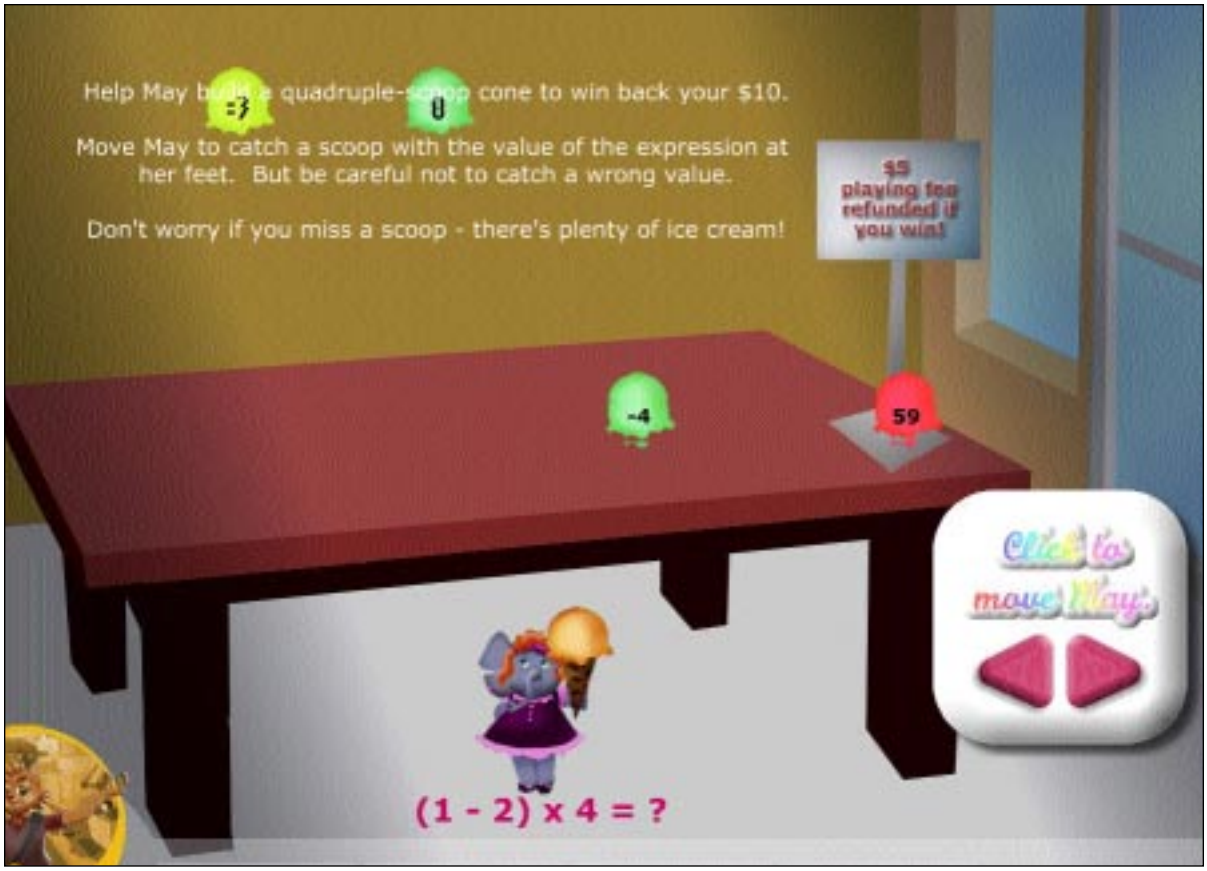
- functions
- number patterns and sequences
- problem solving

To win, students must figure out the F(x) machine.

After dragging a numbered red ball to the input pipe on the top of the machine, it shoots out of the left pipe and is placed in the left column of the IN/OUT table shown to the left of the machine. A new pink ball immediately rolls down the output chute and is placed in the corresponding column next to the red ball.

When the student drags another red ball to the input pipe and it is placed in the left column, the student must correctly guess the next number to roll down the chute and appear in the right column. This procedure continues until the table is completed. Two or more correct predictions win the $5 refund.

Games - Ice Cream Catch


Help May build a quadruple-scoop cone to win back your $10.
Move May to catch a scoop with the value of the expression at her feet. But be careful not to catch a wrong value.
Don't worry if you miss a scoop - there's plenty of ice cream!
$5 playing fee refunded if you win!
-4
59
Click to move May
(1 - 2) x 4 = ?

Skills

- integers
- order of operations

Students must calculate the value of the expression shown below May. Then, using the arrow keys (to the right of May), they move May in position to catch the falling ice cream scoop with the correct answer.

Four correct scoops earn the $5 refund.

Games - Puzzles

Unscramble the puzzle pieces by sliding them.
Click the piece you want to slide. Then click one of the four slide arrows below.
Slide

Put together the puzzle in the frame. Drag pieces to move them. To flip a piece, first click it. Then click a flip button.
Horizontal Flip
Vertical Flip

Turn each piece to see a picture of May. To turn a piece, first click it. Then click one of the turn buttons. Win back your entry fee when you complete
90° counterclockwise
180° counterclockwise
270° counterclockwise

Skills

- flips
- problem solving
- slides
- turns

To solve these puzzles, students transform randomly scrambled pieces.

In the Slide Puzzle, left, right, up or down slides may be applied to the pieces.

In the Flip Puzzle, pieces can be dragged, or flipped with horizontal and vertical flip buttons.

In the Turn Puzzle, 90, 180 or 270 degree counter-clockwise turns are applied.

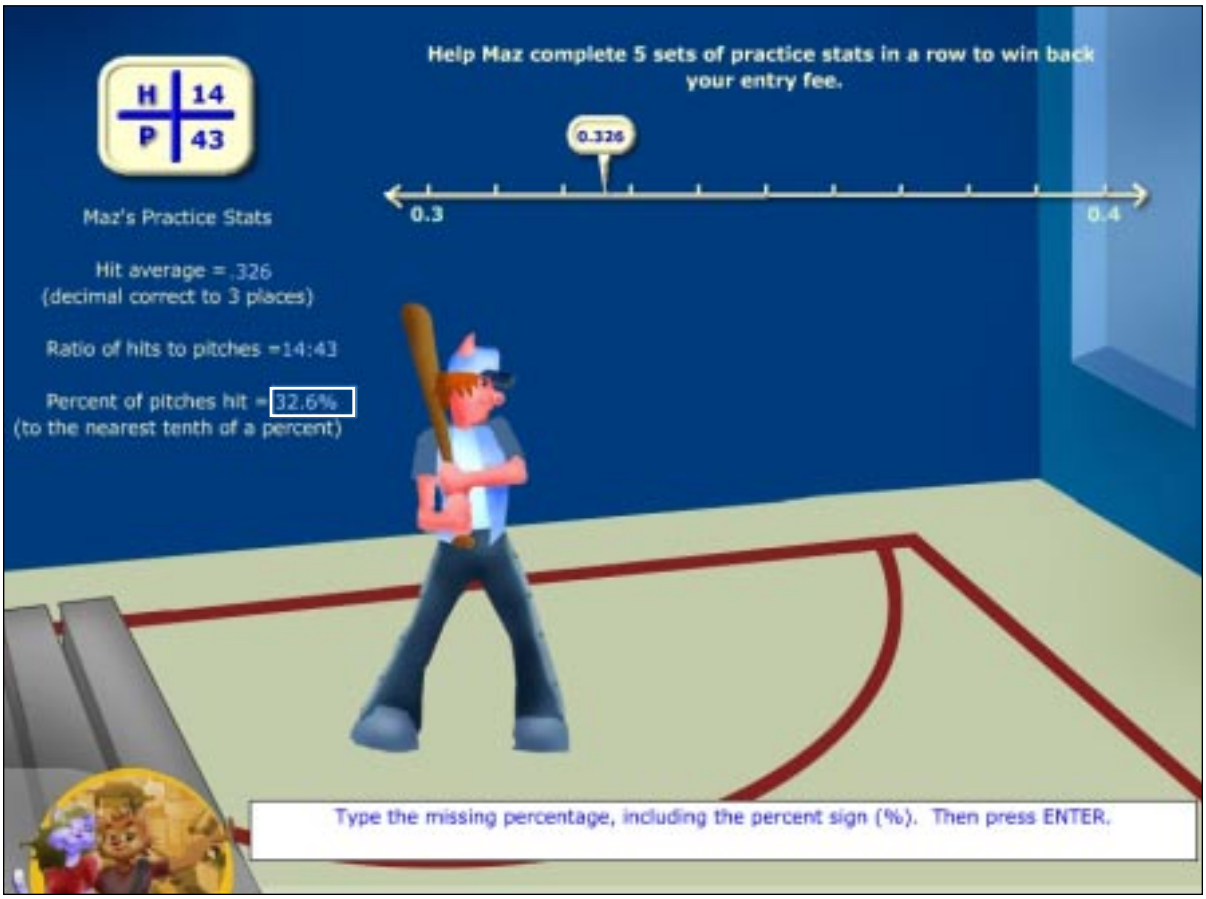
Sports

Sports is filled with equipment for five sports: baseball, basketball, golf, hockey, and soccer. Students choose from among these five activities by clicking an item.

As in Games, students require $5 to try an activity. When they successfully complete a Sports challenge, their $5 is refunded.

Descriptions of the Sports activities follow.

Sports - Baseball

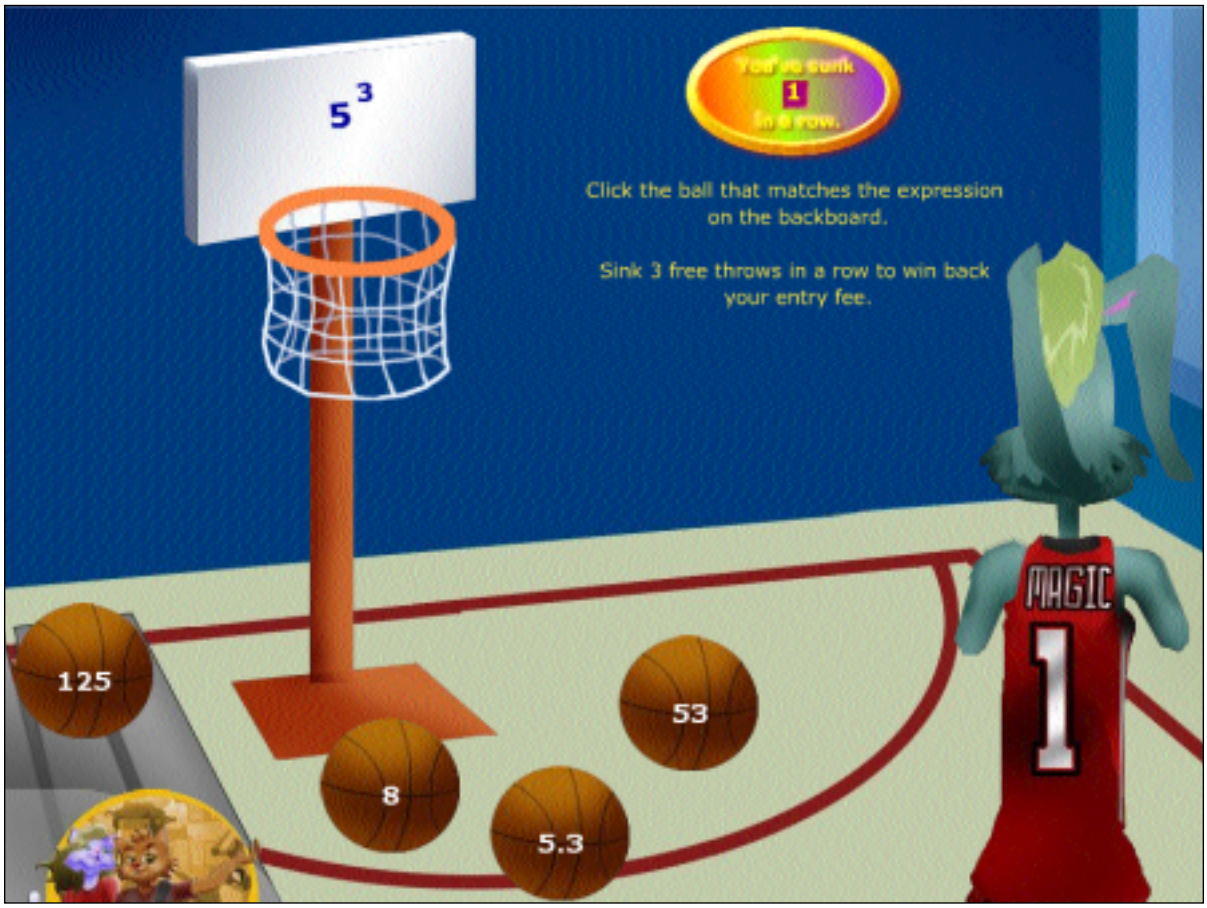

Help Maz complete 5 sets of practice stats in a row to win back your entry fee.
H 14
P 43
Maz's Practice Stats
Hit average = .326
(decimal correct to 3 places)
Ratio of hits to pitches =14:43
Percent of pitches hit = 32.6%
(to the nearest tenth of a percent)
0.326
0.3
0.4
Type the missing percentage, including the percent sign (%). Then press ENTER.

Skills

- converting fractions, decimals, percents, ratios
- decimals to thousandths
- decimal number line locations (thousandths)

A collection of batting statistics is presented. The hits to pitches ratio is given in four formats including: Hit average (a decimal number to 3 places), Hits to Pitches ratio, Hits percent, and the hits average as a decimal number on the number line. Students must fill in the missing stat to get a point. In the example above, 32.6% was entered as the answer. Five points in a row win back the $5 entry fee.

Sports - Basketball

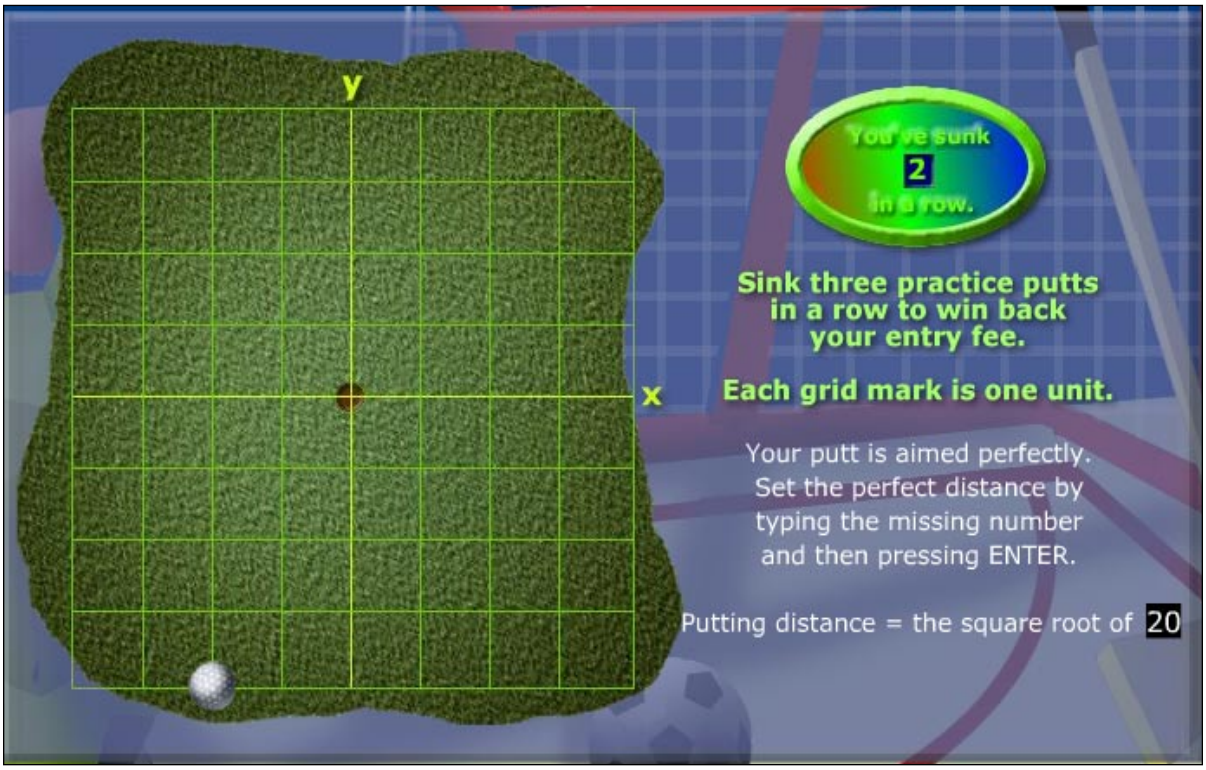


Skills

- exponents
- mental math

In Basketball, students must score a basket by choosing the basketball that has the number equal to the expression on the board. To win, students must score 3 baskets in a row.

Sports - Golf


y
x
You've sunk
2
in a row.
Sink three practice putts in a row to win back your entry fee.
Each grid mark is one unit.
Your putt is aimed perfectly. Set the perfect distance by typing the missing number and then pressing ENTER.
Putting distance = the square root of 20

Skills

- coordinates of a point in four quadrants
- Pythagorean relationship applications

To win, students must sink three putts in a row.

To putt, students apply the Pythagorean Theorem to calculate the square of the hypotenuse by adding the squares of the two sides ($2^2 + 4^2 = 20$).

Sports - Hockey

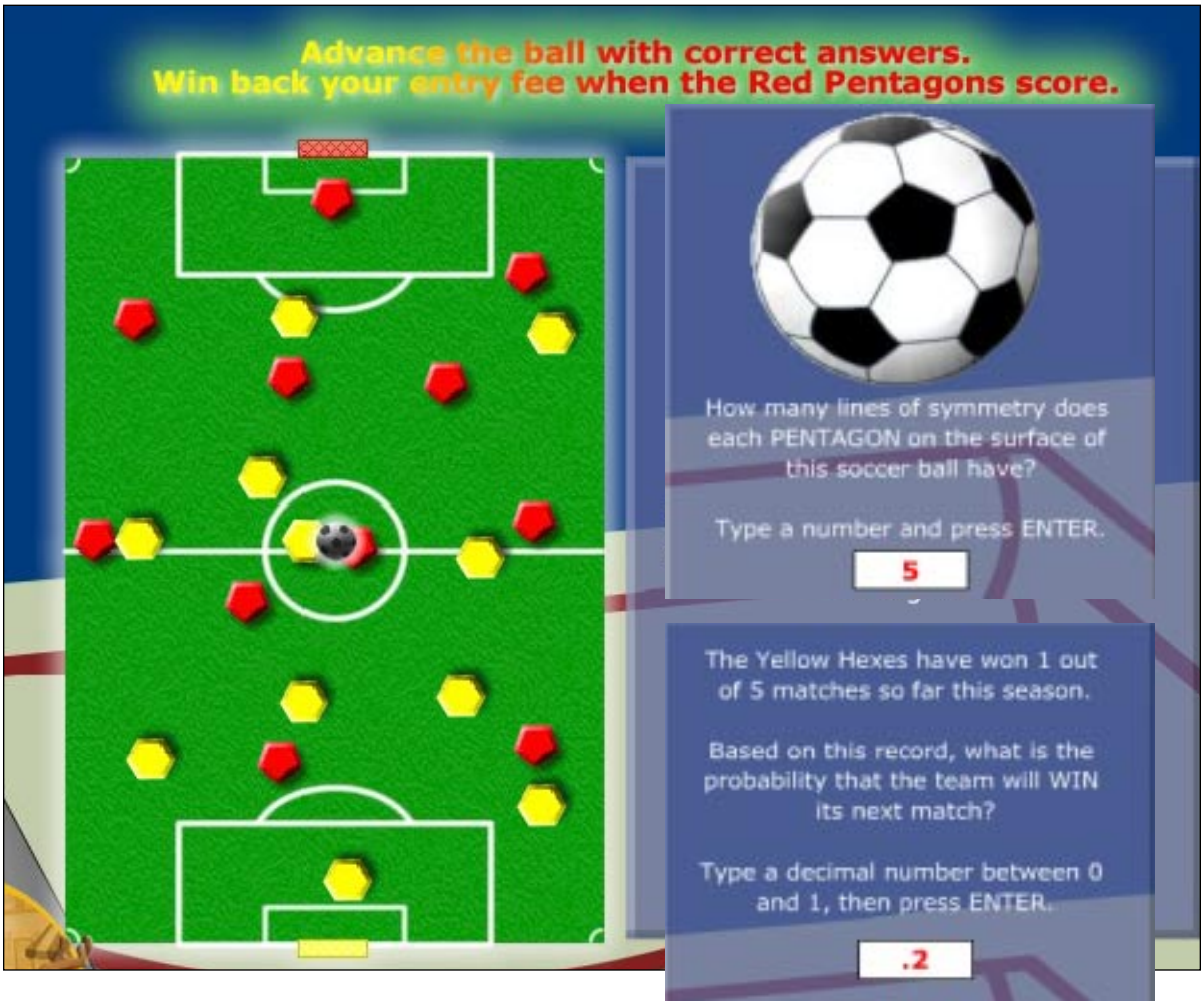
Hit all four targets to win back your entry fee.
The arrow points to where the puck will go. Type a number of degrees to change its direction.
Type in the box below and press ENTER after your answer.
35
To change direction, type a new number in the box above.
When the direction is what you want, click the hockey stick to shoot.

Skills

- estimating angles

To win, students must hit the four targets on the hockey net by specifying the shot angle in degrees. The arrow next to the puck shows the direction of the shot (35 degrees in this case).

Sports - Soccer


Advance the ball with correct answers.
Win back your entry fee when the Red Pentagons score.
How many lines of symmetry does each PENTAGON on the surface of this soccer ball have?
Type a number and press ENTER.
5
The Yellow Hexes have won 1 out of 5 matches so far this season.
Based on this record, what is the probability that the team will WIN its next match?
Type a decimal number between 0 and 1, then press ENTER.
.2

Skills

- combinations
- mental math
- polygons
- polyhedra
- probability based on a list of past events
- rotational and lines of symmetry
- 3-dimensional figures

Students must solve a variety of soccer-themed problems in order to win back their refund. Each correct answer advances the ball to the goal.

Work

Students choose from among 15 categories of work assignments. Trainee jobs are easier, but pay only $3, while the Expert jobs are more advanced, but more lucrative.

Students may do each job any number of times and should always see something different. Many of the jobs have several variations and large pools of data values.

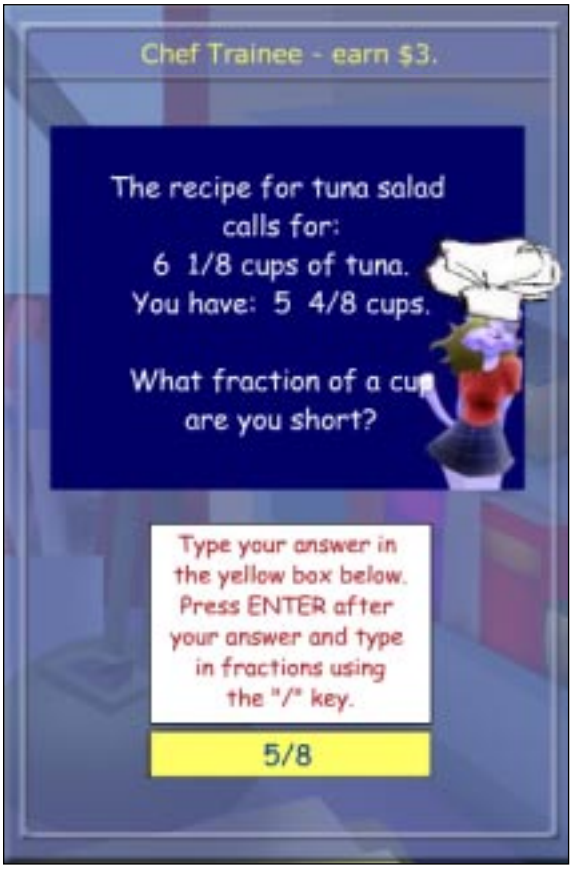
A job from the Expert pool pays a minimum of $5. A trainee job pays $3. The money earned from each completed task may be used to make purchases from the three stores or to play the games or sports.

After a job is completed, the pay is awarded. The job is then marked with a red check and added to the session record. The student is then back on Main Street and may re-enter Work or go to any of the other locations.

Context-sensitive help is available for each job.

A sample of each job (trainee level only) follows. Please keep in mind that because the pool of questions is very large, not every job type is presented.

Work Jobs


Chef Trainee - earn $3.
The recipe for tuna salad calls for:
6 1/8 cups of tuna.
You have: 5 4/8 cups.
What fraction of a cup are you short?
Type your answer in the yellow box below. Press ENTER after your answer and type in fractions using the "/" key.
5/8

Chef

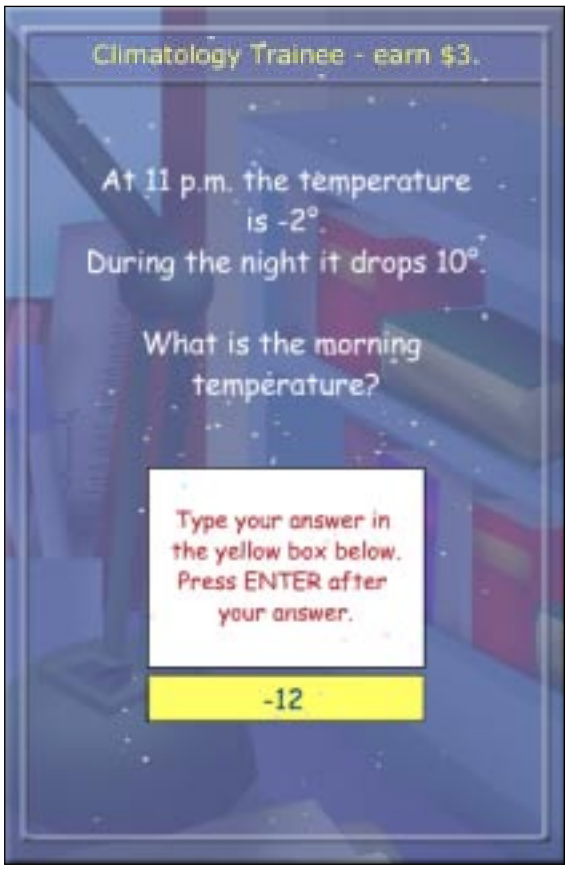
Skills

- adding and subtracting fractions with like denominators (trainee)
- multiplying simple fractions (trainee)
- adding and subtracting fractions with unlike denominators (expert)
- dividing simple fractions (expert)

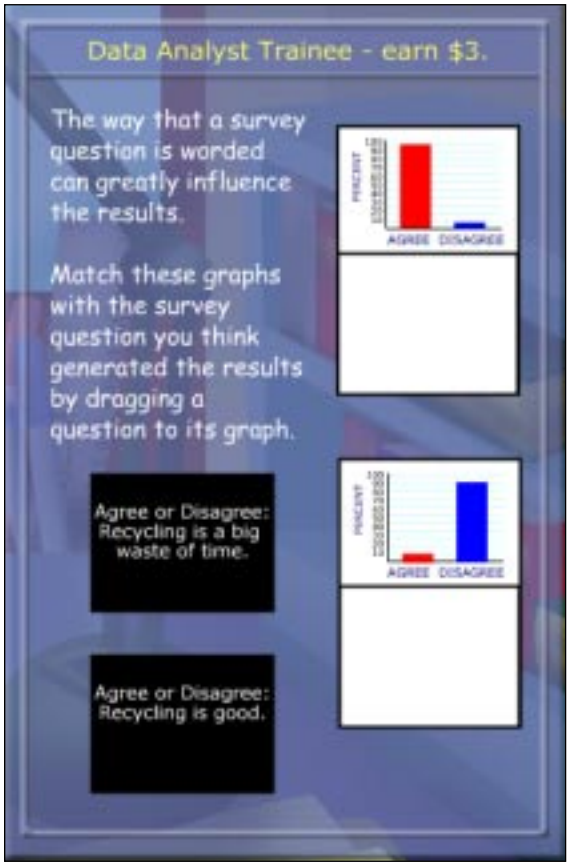
Climatology

Skills

- adding and subtracting integers
- multi-step operations (expert)


Climatology Trainee - earn $3.
At 11 p.m. the temperature is -2°.
During the night it drops 10°.
What is the morning temperature?
Type your answer in the yellow box below. Press ENTER after your answer.
-12

Work Jobs


Data Analyst Trainee - earn $3.
The way that a survey question is worded can greatly influence the results.
Match these graphs with the survey question you think generated the results by dragging a question to its graph.
Agree or Disagree: Recycling is a big waste of time.
Agree or Disagree: Recycling is good.
AGREE DISAGREE
AGREE DISAGREE

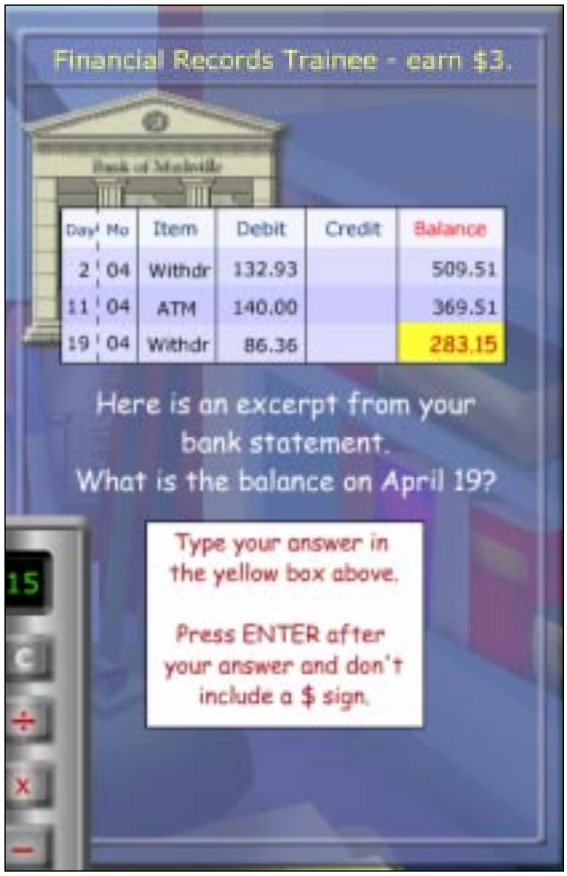
Data Analyst

Skills

- data interpretation
- designing survey questions

Trainee: 2 choices of survey questions and graphs

Expert: 3 choices of survey questions and graphs


Financial Records Trainee - earn $3.
Day Mo Item Debit Credit Balance
2 04 Withdr 132.93 509.51
11 04 ATM 140.00 369.51
19 04 Withdr 86.36 283.15
Here is an excerpt from your bank statement.
What is the balance on April 19?
Type your answer in the yellow box above.
Press ENTER after your answer and don't include a $ sign.

Financial Records

Skills

- adding and subtracting decimal numbers to hundredths
- select operations and solve multi-step problems involving decimals (expert)

Work Jobs

Future Sales

Skills

- reading line graphs
- vertical scale labels (expert)

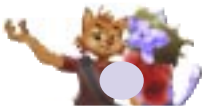
Internet Webmaster Trainee - earn $3.
Webpage
Exits from site
Stays within site
Total Hits
max.htm 1 4 5
matt.htm 1 2 3
may.htm 2 2 4
You are monitoring your website to find out which pages are keeping visitors at your site.
Click the webpage that is doing the best job.

Internet Webmaster

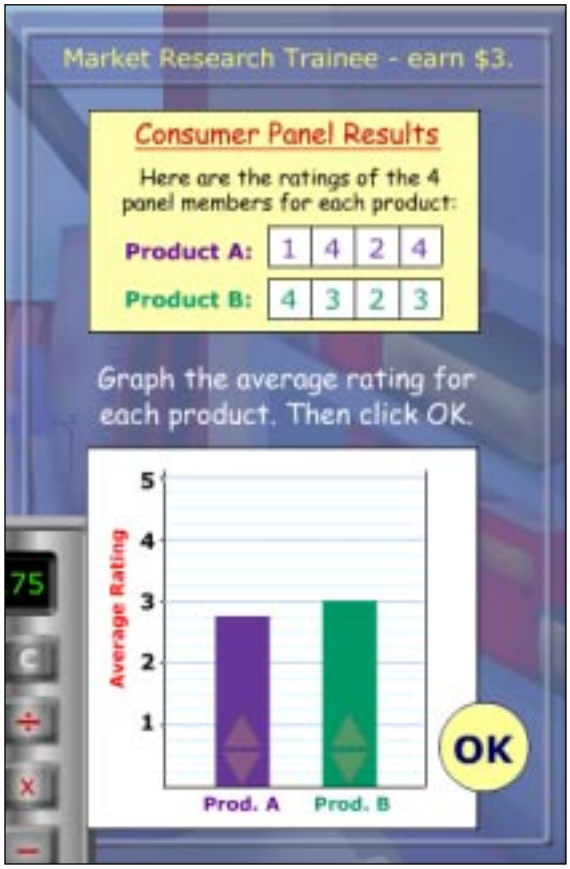
Skills

- ratio
- fractions
- reading tables

  Expert: more complicated fractions in the table and 2-step word problems involving ratio as an additional case.



Work Jobs

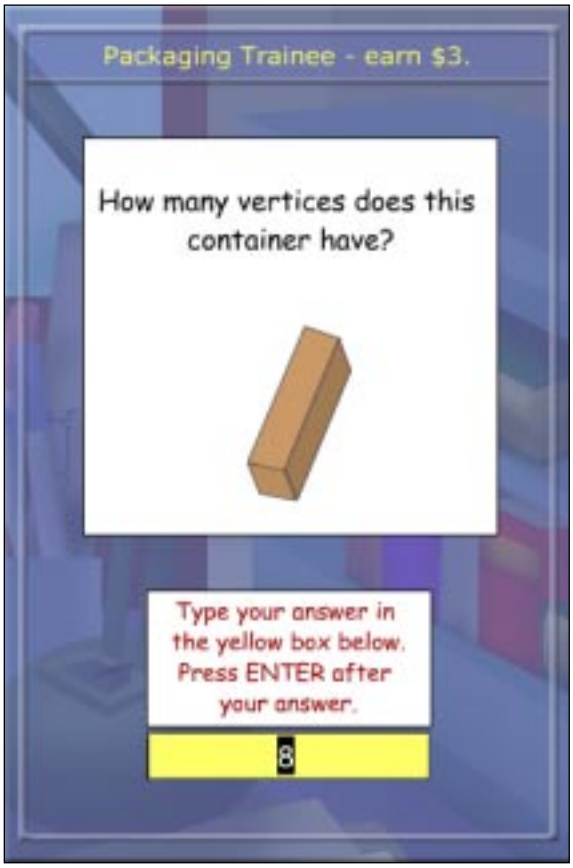


Market Research

Skills

- average
- bar graphs

Trainee: 2 bar graphs, 4 panel members
Expert: 3 bar graphs, 5 panel members

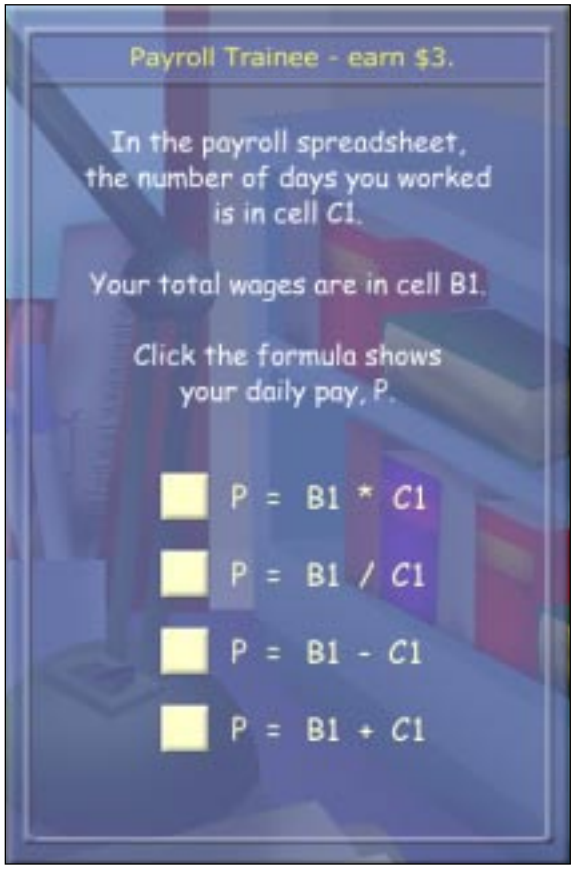

Packaging Trainee - earn $3.
How many vertices does this container have?
Type your answer in the yellow box below. Press ENTER after your answer.
8

Packaging

Skills

- polyhedra
- properties of solids (vertices, edges, faces, etc.)
- perimeter
- surface area
- volume

Work Jobs


Payroll Trainee - earn $3.
In the payroll spreadsheet, the number of days you worked is in cell C1.
Your total wages are in cell B1.
Click the formula shows your daily pay, P.
P = B1 * C1
P = B1 / C1
P = B1 - C1
P = B1 + C1

Payroll

Skills

- algebraic expressions
- substitution in a formula
- order of operations (expert)
- spreadsheet application

Trainee: two-term expressions with only one operation

Expert: three-term expressions and two operations

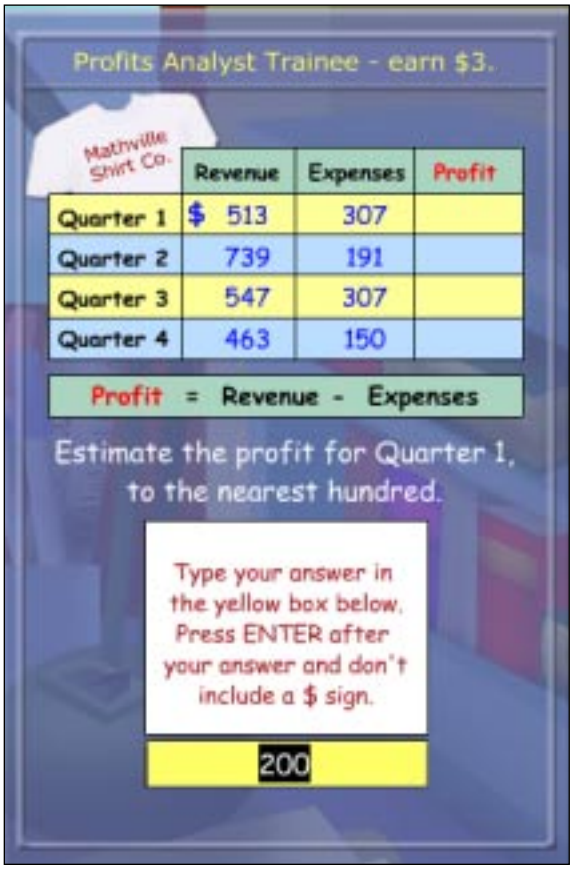
Photography

Skills

- ratio
- perimeter (expert)
- area (expert)

Photography Trainee - earn $3.
11 units
7 units
7 units
11 units
If the photo of Max and Magic is enlarged to a width of 44, what will be its new height?
Type your answer in the yellow box below. Press ENTER after your answer.
28

Work Jobs



Profits

Skills

- estimating
- rounding
- place value
- reading tables
- subtracting

In expert jobs, larger numbers (thousands) are presented.

Savings and Loans Trainee - earn $3.
EARN
2.5%
INTEREST
on your savings!
If the interest rate increases by 6 tenths of a percent, what is the new interest rate?
Type your answer in the yellow box below. Press ENTER after your answer and don't include a % sign.
3.1

Savings and Loans

Skills

- percent
- adding and subtracting decimal numbers to hundredths
- solve problems that involve converting between fractions, decimals and percents

Trainee: conversion from tenths and simple fractions (e.g. 1/2, 1/4) to decimal form

Expert: conversion from hundredths and more difficult fractions (e.g. 3/5, 5/8) to decimal form

Work Jobs

Scheduling Trainee - earn $3.
WORK SCHEDULE
Maryann works every 6 days.
Max works every 2 days.
They last worked together on the circled date.
Sun. Mon. Tues. Wed. Thur. Fri. Sat.
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31
Click the next date on the calendar when they will work together.

Scheduling

Skills

- lowest common multiple
- factors
- problem solving

To solve this problem, the lowest common multiple of two numbers (trainee) or three numbers (expert) must be determined.

Snack Services

Skills

- fractions
- percent
- relating fractions and percent

In the expert level, more challenging fraction and percent relationships are presented.

Work Jobs

Warehouse

Skills

- identifying nets of polyhedra
- recognizing three-dimensional figures from varying views

Expert problems draw upon a bigger and more diversified pool of nets including some that are incorrect and must be placed in the recycling bin. Some expert jobs require knowledge of the name of the polyhedron.

Troubleshooting

Problem	*Possible Cause*	*Possible Solution*
you are immediately told that you can't stay in Mathville	• all files were not copied from the CD-ROM	• Make sure that the Data folder with all its contents is in the same location as Mathville MS or MathvilleMS.exe.

Register your copy of *Mathville MS* to receive unlimited free technical support.

Phone & fax: 1-888-MATHVILLE
www.mathville.com

Student Assignment & Tracking Sheet

Features

- ✔ allows teachers to tailor the program to individual student learning needs by assigning individual students specific activities
- ✔ enables teachers to prescribe activities directly tied to current lesson plans
- ✔ serves as a basis for making future student assignments
- ✔ provides a structured format for students to write down difficulties encountered
- ✔ increases motivation and encourages higher student achievement by creating a paper record of achievement
- ✔ provides a framework for a printed record when printing the session record from the program is not a viable option.

Suggestions for use

- ❖ Photocopy the following Assignment and Tracking page or print it from the Mathville MS Manual.pdf on the CD.
- ❖ To use as a Student Assignment sheet, refer to the Curriculum Connections chart on page 4 to identify the activities you wish the students to do.
- ❖ Use the extra space below for special notes and directions. You may wish to direct the student's attention to specific math points, set a due date or goals to be achieved, refer students to related materials or pages in a text, or record some additional practice questions.
- ❖ To use as a Tracking sheet, make copies of the page available or display it as models for students to copy. Direct the students to copy the session record data that can be viewed from any Mathville screen, to record their work and to write down any other pertinent information.
- ❖ Save the records to monitor student achievement over time.
- ❖ Share the Tracking Sheets and printed Session Records with parents, post them on bulletin boards or have students include them in a learning portfolio.

Mathville Middle School
Assignment & Tracking Sheet

Name: _____

Date: _____

Math Topics & Mathville MS Activities: _____

Teacher's Notes: _____

Student's Notes: _____

Mathville MIDDLE SCHOOL Skills List

Clothing Store:
Number sense - Converting fractions, decimals, percents
Number sense - Decimal operations
Number sense - Estimating & rounding
Number sense - Two-step word problems (discounts)

Games - f(x) Machine:
Number sense - Integers
Patterning and Algebra - Identify and extend patterns

Games - Flip Puzzle:
Geometry - Flips

Games - Ice Cream Catch:
Number sense - Decimal operations
Number sense - Integers
Number sense - Order of operations

Games - Slide Puzzle:
Geometry - Slides

Games - Turn Puzzle:
Geometry - Turns

Grocery Store:
Number sense - Mental math
Number sense - Word problems (reading labels,unit cost)

Hardware Store:
Measurement - Area of rectangles
Measurement - Length
Number sense - Decimal operations
Number sense - Estimating and rounding

Sports - Baseball:
Number sense - Converting fractions, decimals, percents, ratios, and number line locations

Sports - Basketball:
Number sense - Exponents

Sports - Golf:
Geometry - Coordinates of a point in four quadrants
Geometry - Pythagorean relationship applications

Sports - Hockey:
Geometry - Estimating angles

Sports - Soccer:
Data and probability - Listing outcomes (combinations, systematic lists)
Data and probability - Probability of an event
Geometry - Symmetry of regular polygons
Geometry - Faces and vertices of 3-D shapes
Geometry - Visualizing three-dimensional shapes

Work - Chef:
Number sense - Adding and subtracting fractions
Number sense - Multiplying simple fractions

Work - Climatology:
Number sense - Integer addition and subtraction

Mathville Skills List

Work - Data Analyst:
Data and probability - Data interpretation
Data and probability - Designing survey questions

Work - Financial Records:
Number sense - Adding & subtracting decimal numbers to hundredths

Work - Future Sales:
Data and probability - Reading line graphs
Data and probability - Vertical scale labels

Work - Internet Webmaster:
Number sense - Rate and ratio
Number sense - Fractions
Data and probability - Reading tables

Work - Market Research:
Data and probability - Average
Data and probability - Bar graphs

Work - Packaging:
Geometry - Polyhedra
Geometry - Properties of solids (vertices, edges, faces, etc.)
Measurement - Perimeter, surface area, volume

Work - Payroll:
Patterning and Algebra - Algebraic expressions
Patterning and Algebra - Substitution in a formula

Work - Photography:
Number sense - Ratio
Measurement - Perimeter
Measurement - Area

Work - Profits:
Number sense - Estimating and rounding
Number sense - Place value
Data and probability - Reading tables
Number sense - Subtraction

Work - Savings and Loans:
Number sense - Percent
Number sense - Adding and subtracting decimal numbers to hundredths
Number sense - Relating fractions, decimals, and percent

Work - Scheduling:
Number sense - Lowest common multiple

Work - Snack Services:
Number sense - Percent
Number sense - Fractions
Number sense - Relating fractions and percent

Work - Warehouse:
Geometry - Identifying nets of polyhedra
Geometry - Recognizing 3-D figures from varying views